APPENDIX A
CALFED PROJECT IMPLEMENTATION SUMMARIES

Action #1. North Delta Flood Control Improvements

Purpose

The north Delta flood control improvements are intended to alleviate flooding in the north Delta in ways that are compatible with local land uses, regional flood control plans, and CALFED ecosystem restoration goals.

Background

The major flood problem in the north Delta is a lack of channel capacity in the Mokelumne and Cosumnes Rivers and the Morrison Creek stream group to safely convey the 100-year peak flows from Sierra Nevada watersheds through the north Delta to the San Joaquin River. The combined channel capacity required to safely convey flows from the 100-year flood event would be 90,000 cubic feet per second (cfs). Current channel capacities for the Mokelumne River are approximately 26,600 cfs in the North Fork and 13,300 cfs in the South Fork, for a total combined capacity of approximately 40,000 cfs. In addition to limitations related to channel capacity, further constrictions have developed at vulnerable areas in the channels during actual flood events; for example, boats have become lodged up against bridges, creating hydraulic dams that further stress the system. Areas that have been vulnerable to flooding in the north Delta area include the Point Pleasant area, McCormack-Williamson Tract, Dead Horse Island, Staten Island and New Hope Tract, Bract and Canal Ranch Tracts, and the Franklin Pond area.

The potential for flooding in the north Delta area threatens important public facilities and institutions. In the Franklin Pond area, Interstate 5 and the Union Pacific Railroad line were damaged during both the 1986 and 1997 flood events and the Rio Cosumnes Correctional Center was damaged and had to be evacuated during the 1997 event.

Sedimentation in the system is a concern, particularly in the South Fork of the Mokelumne River, because the accumulation of sediment over time decreases the capacity of a channel to carry floodflows. While dredging could be used to remove sediment, it is very difficult to obtain permits for dredging in this area because of environmental constraints. In the North Fork of the Mokelumne River, flow velocities are high enough to keep the channels scoured so sedimentation is less of a problem.

The north Delta has a significant history of overtopping and failure of the levee system during peak flows. Levees on McCormack-Williamson Tract and Dead Horse Island are frequently overtopped during large floods. Recent problems with the levee system include the structural failure of levees near Thornton and overtopping of levees on Tyler Island in 1986. In 1997, levees near New Hope Landing and Millers Ferry Bridge were in danger of failure and a structural levee failure on Staten Island threatened the island with inundation.

Description

The following possible flood control alternatives were developed by the North Delta Improvements Group and are described in some detail in the White Paper. These alternatives will be evaluated in a draft project-specific EIR/EIS; additional alternatives may be identified during the formal EIR/EIS scoping process.

- **Alternative ND-1 – No-Action.** Levees along New Hope, Canal Ranch, and Brack Tracts and those along Staten, Tyler, and Bouldin Islands will be eligible for funding to be upgraded to the PL84-99 standard under the CALFED Levee Program. These improvements are assumed to occur under the No- Action Alternative, but no additional improvements are assumed.

- **Alternative ND-2 - Dredging and Levee Raising.** Conduct dredging and raise levees on the North and South Forks of the Mokelumne River.

- **Alternative ND-3 - Flood Bypass/Setback Levees.** Increase Mokelumne River channel capacity by constructing setback levees. These levees would result in a channel width of approximately 1,500 feet. Setback levees could also be constructed to create a flood bypass. Several bypass configurations have been proposed, each including adding slope protection and elevating Walnut Grove-Thornton Road:

  - **Alternative ND-3.a - South Mokelumne River Bypass.** Construct 46,000 feet of setback levees and 12 overflow weirs on the South Fork.

  - **Alternative ND3.b - North Mokelumne River Bypass.** Construct 48,000 feet of setback levees, two overflow weirs, and internal levees on Staten Island to protect MT Ranch headquarters.

  - **Alternative ND-3.c - Tyler Island Bypass.** Construct a 49,000-foot setback levee and two weirs on Tyler Island.

- **Alternative ND-4 - Staten Island Floodway.** To provide storage for peak floodflows and lower peak flows elsewhere in the system, open up Staten Island to intentional flooding in conjunction with the use of McCormack-Williamson Tract for intentional flooding (see Action #2, "Flooding of McCormack-Williamson Tract"). This alternative also includes constructing 3,800 feet of setback levees, constructing 9,500 feet of interior levees to protect MT Ranch headquarters, elevating a section of Walnut Grove-Thornton road, constructing inlet and outlet weirs, adding slope protection to Staten Island levees, and acquiring a floodway easement.

- **Alternative ND-5 - Staten Island Floodway and South Mokelumne River Setback Levees.** Use Staten Island, in conjunction with McCormack-Williamson Tract, as a floodway. This alternative includes the key features of Alternative ND-4 and also includes constructing approximately 21,600 feet of setback levees along the South Fork of the Mokelumne River.

It is also recommended that other measures be taken to increase flood capacity. These recommended measures include modifying marina management and modifying bridges.

Implementing Agencies

Federal lead agency: To be determined (possibly U.S. Army Corps of Engineers)

State lead agency: California Department of Water Resources (Curt Schmutte)

Other coordinating agencies: California Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Lands Commission, Reclamation Board, U.S. Bureau of Reclamation, and Natural Resources Conservation Service.

Required Resources

Preliminary cost estimates have not yet been prepared for the actions in the North Delta Regional Plan. These will be provided at a later time.

Coordination

Several levels of coordination are built into the organizational structure for implementing Actions 1-3 (see Figure 3). Coordination with the federal and state lead agencies will be handled by the Implementation Coordinator, the Assistant Implementation Coordinator, and the Project Managers for the lead agencies. Coordination with north Delta stakeholders will be accomplished through regular meetings of the North Delta Improvements Group. Coordination with regulatory agencies will be accomplished through regular meetings of the Regulatory Review Team. Coordination with other CALFED Bay-Delta Program elements (primarily Ecosystem Restoration, Water Quality, Levee System Integrity, Watershed, and Conveyance programs) will take place through regular meetings between the Implementation Coordinator and other CALFED Bay-Delta Program managers.

Schedule

See Figure 4.

Action #2. Flooding of McCormack-Williamson Tract

Purpose

To enhance habitat for fish and wildlife while providing increased flood protection for the north Delta.

Description

McCormack-Williamson Tract is bordered by both the Cosumnes and Mokelumne Rivers. This land is currently farmed. CALFED's vision for McCormack-Williamson Tract is to enhance shallow water, wetland, and riparian habitats and to provide an increased level of flood protection.

The Nature Conservancy has purchased McCormack-Williamson Tract for conversion to fisheries and wildlife habitat with funding through a CALFED Category III grant. Two other CALFED Category III grants have been awarded to the Department of Water Resources and the University of California, Davis, to undertake the following tasks related to restoration of McCormack-Williamson Tract:

- analyze historic hydrogeomorphic conditions on McCormack-Williamson Tract by obtaining and analyzing core samples from various sites on the tract,
- analyze current hydrologic and sedimentologic patterns,
- conduct baseline studies of aquatic resources in the vicinity of McCormack-Williamson Tract,
- conduct baseline studies of riparian resources on and in the vicinity of McCormack-Williamson Tract,
- design restoration program alternatives (including engineering and land use aspects) and complete environmental documentation, and
- manage monitoring data collected in previous tasks.

The work funded by CALFED represents the first steps in designing and implementing restoration activities on McCormack-Williamson Tract. Future steps will build on the research, data collection, and design work accomplished through the Category III grants.

Implementing Agencies

Unknown at this time.

Required Resources

Preliminary cost estimates have not yet been prepared for the actions in the North Delta Regional Plan. These will be provided at a later time.

Coordination

See Figure 2.

Schedule

See Figure 4.

Action #3. Georgiana Slough Restoration

Purpose

To improve fish and wildlife habitat in the north Delta.

Description

CALFED intends to restore tidal and riparian habitats along Georgiana Slough. CALFED has funded a pilot project to use bioengineering techniques to protect the banks of Georgiana Slough and plant native vegetation to provide tidal and riparian habitats along 7 miles of the slough.

The work funded by CALFED represents the first steps in designing and implementing restoration activities along Georgiana Slough. Future steps will build on the research, data collection, and design work accomplished through the Category III grants.

Implementing Agencies

Unknown at this time.

Required Resources

Preliminary cost estimates have not yet been prepared for the actions in the North Delta Regional Plan. These will be provided at a later time.

Coordination

See Figure 2.

Schedule

See Figure 4.

Action #4. Feasibility Study for Hood Diversion and Delta Cross Channel Re-Operation

Purpose

To evaluate the feasibility of using a screened diversion on the Sacramento River at Hood of up to 4,000 cubic feet per second (cfs) to improve drinking water quality. In conjunction with evaluating the feasibility of the diversion, the study would also evaluate modifying the operational criteria of the Delta Cross Channel (DCC) to balance flood control, water supply reliability, and fisheries concerns.

Description

The U.S. Bureau of Reclamation constructed the DCC in 1951 as part of the Central Valley Project. Its purpose was to improve water quality in the central and southern Delta when the Tracy Pumping Plant is diverting water. However, moving Sacramento River water into the Delta's interior through an unscreened diversion confuses migrating fish that are listed or proposed for listing under the Endangered Species Act. To protect these fish, the gates are often closed, reducing water quality in the central and southern Delta.

This study will assess whether a screened diversion of up to 4,000 cfs would help achieve CALFED's water quality goals with fewer impacts on fish. It will also consider how operations of the DCC can be modified in conjunction with the use of this potential new diversion.

The study could lead to a pilot project consisting of a screened diversion with a channel between the Sacramento and Mokelumne Rivers to allow for analyses of impacts on upstream and downstream migrating fish as well as impacts on Delta species from changes in habitat resulting from increased flows in the eastern Delta. Following evaluation of the pilot project, a final decision would be made on whether the diversion channel and structure should continue to be used and, if so, what the operational rules and optimum size of the diversion should be.

Implementing Agencies

California Department of Water Resources

Required Resources

Preliminary cost estimates have not yet been prepared for the actions in the North Delta Regional Plan. These will be provided at a later time.

Coordination

The feasibility studies will be undertaken by CALFED with assistance from the California Department of Water Resources and the U.S. Bureau of Reclamation. See Figure 4.

Schedule

Completion of the feasibility studies is expected to require approximately 24 months. See Figure 4.